PEKISKO GROUP

September 14th, 2021

To; The Coal Policy Committee

As promised, we present to you the formal and scientific predictive research study of the potentially significant impacts of coal development to human and animal/livestock health, forage and grazing lands in the Livingstone rangeland of the eastern slopes.

What is most concerning is that the consideration of research for these impacts to human health, on livestock, fescue and forage/grazing lands and ultimately food production from surface coal mining, has never been studied or undertaken (including in the Grassy Mountain review and application) or considered in the process or regulatory system.

As landowners and disposition owners directly living and working within the areas of new exploration and potential coal development, we have had to pay for and engage this research from industry experts and toxicologists to reveal and uncover the realities that we will be facing within these areas and surrounding community.

The modelling study shows the highest and most extreme health risks and impacts from airborne contaminates to Plateau Cattle Company – from the downwash effect, followed by Rocking P Ranch, the Waldron Grazing Co-operative and Spruce Ranching Co-operative. It is also important to note that above acceptable human health and environmental guidelines occur in within all areas highlighted within the red highlighted area/boundary the study. It is important to also recognize that exceedances of air quality guidelines occur outside mine site boundaries on cattle grazing allotments.

The risks identified within this research to human health define and include respiratory and cardiovascular illnesses, cancer and a list of health ailments related to metal toxicity.

High risk is identified to cows grazing on forages/native grasslands in these areas-cattle raised for food production and human consumption.

The study identifies an increase of acids affecting plant health – decreasing growth and regrowth of fescue/native grasslands (species at risk).

It is our hope that this research will help The Coal Policy Committee identify these grave and unacceptable risks and that it will assist in identifying an area of extreme importance and unacceptable risks when formulating the modern Coal Policy.

**Please note that this study is independent of Brad Stelfox, Alces Group as commissioned by the Livingstone Landowners Group (LLG) on the impacts to water quantity and quality – but we encourage the committee to consider the compounding effects of these independent third-party research studies.*

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Global Context

1. it is evident that surface coal mining operations contribute to the deterioration of air quality through emissions of fugitive dust and gases

2. environmental and human health studies from across the globe show a consistent association of air impacts from surface coal mining with high mortality and morbidity from cancer, respiratory and cardiovascular diseases and congenital anomalies in populations close to operating mines

3. particulate matter released from fugitive dust emissions at operating surface coal mines has been conclusively linked to increased mortality and morbidity

4. air monitoring data at or near operating surface coal mines in British Columbia indicate that the contaminants which most frequently exceed health-based thresholds include particulate matter, sulphur dioxide and nitrogen dioxide

5. for air-related exposure pathways, particulate matter released from fugitive dust emissions at operating surface coal mines poses the greatest health risk to nearby communities, livestock and agricultural operations

Study Area Risks

6. the bioaccumulation of metals by plants and ingestion by cattle is a significant risk factor from surface coal mines within the study area and could result in adverse chronic health effects to cattle

7. ingestion of forage crops on the grazing allotments within the study area is the highest risk factor and the primary risk driver when considering potential impacts from surface coal mining to agricultural land users

Recommendations

8. prior to the approval of further coal exploration or surface coal mine development in the Eastern Slopes, the Government of Alberta must:

    a. undertake an assessment of the potential human and animal health impacts associated with air emissions related to surface coal mine development
    b. complete a cumulative effects assessment of the potential impacts from surface coal mine development
    c. conduct an evaluation of the potential impacts to the cattle ranching industry as a result of the cumulative effects due to nitrogen deposition
    d. undertake a species-level sensitivity study (including geographical extent) of the high-quality ecological communities associated with healthy grazing pastures and allotments

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e. conduct further studies to quantify and validate the critical load values for soils

We understand that the following pages have in depth and high-level scientific reference. We both encourage and welcome any questions that you may have.

The manuscript for submission for a peer reviewed journal is in progress.

Sincerely,

The Pekisko Group

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